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APRIL 15, 1989

EXCLUSIVE REPORT: Local Area Network Growth Surges

DATAMATION®

FOR MANAGERS OF INFORMATION TECHNOLOGY WORLDWIDE

Digging Out With Image Technology

New Document Systems Are Useful Tools, But Integration with IS is Key

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Computer Associates: At a Crossroads

Expert System Shells for Mainframes

The Laissez Faire Legal Status of EDI

Questions About IBM's 3380 DASD Upgrade

APR 15, 1989 VOLUME 35 NUMBER 8

DATAMATION

FOR MANAGERS OF INFORMATION TECHNOLOGY WORLDWIDE

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BY MARSHA J. FISHER Document image processing captures a digital copy of an original document and promises users like banks, credit grantors, and insurance companies greater efficiency, reduced cost, and better customer service. But integrating the technology with conventional information systems and networks isn't easy. Still, it's not hard to see why these systems have grabbed the attention of IS professionals everywhere: a recent survey of image processing users revealed that in a whopping 99% of installations, worker productivity improved by 20% or more.

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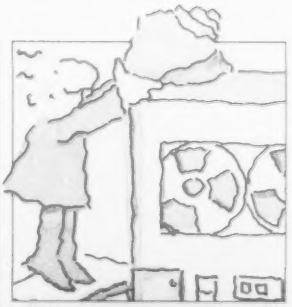

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BY RALPH EMMETT CARLYLE Charles Wang built CA, the world's largest software company, by acquisition. Now he's at the helm of the first independent software company in history to top $1 billion a year in revenue—the company many refer to as "the IBM of the software industry." Wang's challenge is to integrate CA's vast suite of products, and to relate to higher-level IS managers. Here's the inside story of a company you may *have* to deal with.

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EDITED BY LINDA RUNYAN A report on products, services, and methodologies for IS managers in the financial services sector. Future editions will serve managers in the government and manufacturing sectors. (Not included in all issues.)

Getting Closer to Fulfilling a Promise

The "promise of computing," a phrase often bandied about in the computer industry, is often abused. Buy this software on this or that machine and your organization will be catapulted to the front ranks of your market. Don't invest in this or that technology and your company may find itself at a competitive disadvantage. Of course, much of this kind of talk is just good old-fashioned hyperbole. When all is said and done, most users have trained themselves to look upon the equipment for what it is—a tool that aids a business process or function.

Every once in a while, though, a technology comes along that has such immediate application and tangible benefit that it almost lives up to the hype generated for it. Document image processing just may be one of those technologies. As our section editor, Marsha Fisher, reports in this issue's cover story, "Digging Out with Image Technology," (p. 18), document image systems are being embraced by many different types of organizations worldwide. And for good, not hyped, reasons.

"Users, particularly those in paper-intensive, customer service-oriented industries, are buying into image processing in growing numbers because they have recognized that its benefits, both intangible and concrete, can far outweigh the cost of its special architectural and operational requirements," Fisher writes. "A recent Yankee Group survey of 2,000 users revealed that in a whopping 99% of installations, worker productivity improved by 20%."

With gains like this, it isn't difficult to see why the document image processing market is conservatively predicted to grow at a compound annual rate of 29.5% from 1988 to 1992, reaching $594 million. The numbers are impressive; but what must also be impressed upon users of this technology are some of the challenges that must be met in its application.

First and foremost, Fisher points out, is devising a strategy that makes sense for your particular business. Installing a document image system without determining how it fits into your company's overall IS environment is the wrong way to proceed. Next, the integration of these systems into your conventional IS structure is key if you are to realize the full potential these new systems have to offer. Following these steps, along with others that Fisher illuminates in our cover story, will help give your company firm footing on the road to fulfilling computing's promise. (In our next issue, we will feature a roundtable of users of document imaging systems).

Computer Associates' Latest Challenges

Making promises, of course, is the stock-in-trade of the vendor community, and often, the bigger the company, the bigger the promise. Examining these promises—how and when they will be fulfilled—is the purpose behind our continuing major vendor profile series. This issue we take a hard look at Computer Associates International Inc., the Garden City, N.Y., software phenomenon that in a few short years has grown to be the world's largest software company, and the first to achieve $1 billion in sales. On the basis of interviews with users, competitors, and analysts, as well as an exclusive interview with CA's gutsy founder and CEO Charles Wang, DATAMATION senior writer Ralph Emmett Carlyle finds in "Computer Associates: At a Crossroads" (see p. 61) that CA is at a critical juncture. Rapid growth has meant rapid success, but now CA must integrate its vast suite of in-house-developed and acquired products, improve communications with users, and appeal to higher-level IS managers.

Photograph by Bill Kelly

CA's WANG (c.) ponders a question from DATAMATION's Brousell (r.) and Carlyle.

David R. Brousell, Executive Editor

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LAN Growth

An IS rite of passage has occurred: a concept has passed from buzzword, through acceptance, and has arrived at majority usage. Connectivity is a widespread reality. Almost 64% of the respondents to a DATAMATION survey of its readers say their company or organization have a strategic plan to "fully interconnect its computer systems." And there has been a dramatic jump in the penetration of local area networks. In a similar poll conducted last year, just 36% of respondents said their companies had installed LANs. Now, almost 56% say LANs are at work in their companies, more than a 50% increase in one year.

About half of the 44% who report no local networks at their companies say that they'll soon have them: over 19% of the no-voters say they'll be networking within a year, another 26% within three years, and just over 5% within five years. About 22% of the total sample say they'll remain incommunicado for "the foreseeable future."

(The organizations most likely to be aiming at full connectivity are those that have committed to OSI, SAA, or Unix technology strategies. Least likely to be aiming at full connectivity are current basic IBM PC users.)

The percentage of PCs that are hooked to LANs has risen. Last year's survey found that just 30% of PC users were hooked up to LANs. This year, across the organizations polled, over 34% of PCs and over 41% of users at an average site are connected to a local area network. But the story changes when the responses are looked at on an industry-by-industry basis. Here, the reality is feast or famine. Compare, for example, the most networked and the least: companies in the communications business and those supplying gas and electricity. As might be expected, the former do a lot of communicating in-house: at communications utilities, an average of 55% of PCs are connected to a local area net. At gas and electric utilities, on the other hand, only 15% of PCs are tied together (see "What's On-Line, Who's On-Line" and "The LAN Reality").

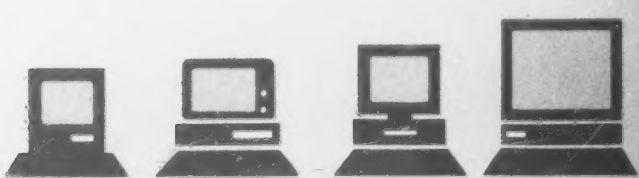
Workstations show a different networking profile. More of these machines are standalone, with the great majority of respondents reporting that fewer than 10% of their workstations are networked. (The only industrial sector in which the survey shows that a majority of workstations are networked is a polyglot sector made up of construction, mining, and agriculture companies, and the sample from this sector may be deceptively small.)

The push toward local networking has come from both end users and the IS staffs of the organizations polled, with IS taking the lead. End users have been the force behind LANs at just over 29% of the companies polled; IS has taken the LAN lead at almost 38% of the companies. Corporate management hasn't shown dramatic interest in LANs at most companies: only 9%

What's On-Line?

The percentage of PCs that are connected to a LAN is affected by both the size and technology track of a company or organization.

Technology Track



% of PCs on LANS	Macintosh	MS-DOS IBM PCs	PS/2	Unix
10% or less	37.4	41.5	38.2	26.1
11-20%	4.8	9.3	11.8	8.7
21-30%	9.7	8.3	14.7	8.7
31-40%	6.0	4.7	2.9	7.3
41-50%	6.0	4.1	4.9	4.4
51-60%	4.8	3.6	3.9	5.8
61-70%	8.4	4.7	5.9	4.3
71-80%	12.1	8.8	6.9	15.9
81-90%	3.6	5.7	5.9	8.7
91-100%	7.2	9.3	4.9	10.1
Mean	37.2	34.7	31.7	44.6

Source DATAMATION

Surges

In DATAMATION's second Connectivity Survey, most respondents say they've got LANs. Here's a look at today's connectivity reality.

BY PARKER HODGES

of the respondents report that corporate management has shown the greatest interest in using LANs.

Here, too, the story changes in different industries. At suppliers of IS and computer services, the LAN lead is shared equally by IS and corporate management, with each named leader at about 31% of the companies polled. At transportation companies and at manufacturers of information technology products, the most pressure for local networking has come from another quarter, business unit management: half of 11 companies and 43% of transportation companies report that the greatest interest in LANs has come from business unit management.

And where does this LAN road lead? According to the survey, just over 39% of the installed LANs are connected to corporate mainframes.

In most cases, credit for the creation of all this networking can be laid directly at the feet of in-house IS shops. The survey asks simply, "Who built your network?" and the overwhelming majority—66.6%—of respondents say that they'd built the things themselves. Not completely without help, of course. (Respondents could split the credit, so the answers total just a hair over 110%.) Just over 15% cite major computer vendors. Almost 10% say that their networks had been built by a systems integrator or value-added reseller. The same number of respondents—4.3% each—say a major communications vendor or a telephone company. But outpacing both these traditional networkers is the local PC retailer; 5.4% of the respondents credit these local businesses as their network builders.

This year, over 34% of PCs and over 41% of users at an average site are connected to a local area network.

The survey also reveals much about the shape of computing today. Respondents were asked which connectivity/computing architecture best described their companies. The choices: single-tier, host with terminals; double-tier, host with networked PCs/workstations; triple-tier, mainframe host with mini gateway to networked PCs; networked PCs only; and other.

Closely bunched at the front of the pack were single- and double-tiered solutions, with double-tier ahead by a nose, 35% to 33%. Three-tiered architectures were the rule at 21% of the respondents' companies, with the rest making do with networked PCs or other.

But when a company aims to fully interconnect its computer systems, the balance shifts. At these ambitious organizations, double-tier at 36% and triple-tier at 31% are the clear leaders. Single-tier solutions drop back to just under 21%.

Apparently, the size of the company has a lot to do with architectural realities. Those favoring a three-tier scheme tend to be in companies with more employees, the largest group in companies with more than 5,000 employees.

Who's On-Line?

At companies using Unix, a mean of almost half of all PCs are on LANs; at smaller companies, PCs are more likely to be connected than at large ones.

Company/Organization Size
Number of Employees

Under 50	50-99	100-499	500-999	1,000-4,9999	Over 5,000
27.3	40.0	39.6	41.7	48.0	39.7
–	–	7.6	11.1	8.0	10.4
–	20.0	7.5	8.3	10.0	10.3
9.1	–	7.5	2.8	6.0	1.7
–	–	3.8	8.3	4.0	6.9
–	10.0	1.9	5.6	–	8.6
–	–	7.5	2.8	4.0	6.9
–	–	3.8	13.9	10.0	8.6
18.2	10.0	3.8	–	6.0	5.2
45.4	20.0	17.0	5.5	4.0	1.7
63.6	40.3	37.8	31.4	29.3	31.9

Illustrations by Catherine Francis

Single- and double-tier plans are more evenly spread across the population spectrum, but single-tier dominates in companies with between 50 and 500 employees. Double-tier dominates at companies with fewer than 50 employees and at those employing between 500 and 4,999. (Understandably, the PC-only solution is also most often found in the smallest companies.)

Still, there is much distance between the connectivity ambitions of U.S. companies and the connectivity reality. In a wired world, many lag behind. But there are exceptions. According to the Associated Press, a recent survey of the town of Santa Monica, Calif., found that 23% of the residents owned personal computers equipped to communicate!

The Role of the Technology Track

Connectivity's shape within an organization often depends on the technology strategies that operate within that organization. The survey asked respondents to identify technologies for which they "have technology strategies," and these answers were cross-tabulated with the other findings of the survey. Here are some intriguing findings:

- Those who report they have utilization strategies for the Open Systems Interconnection (OSI) model and SNA are more likely to believe the shift toward end-user computing will displace today's IS pros than those that don't have OSI and SNA strategies. Where respondents on other technology tracks say "No, this won't happen" about 80% or more of the time, only 68% of OSI and SNA types say it won't happen.
- Users with Macintosh strategies are the most unhappy about the connectivity solutions that are available: fully 92% say pieces of the connectivity puzzle are missing. The across-the-board average of those who cite missing pieces is 76%.
- The major problems cited when downloading data for users are user interfaces (cited by 46.2% of respondents); performance (42.6%); and data transformation (40.4%). For OSI strategists, performance takes the negative lead, named as the number one problem by almost 69%.
- Organizations with OSI strategies are the only places in which a majority of workstations are on a LAN: over 55%. Unix strategists come next at almost 43%.
- Users with OSI strategies are also the clear leaders in the average percentage of their PCs that are on LANs: 54%. In no other technology strategy does the percentage of connected PCs exceed 40%.
- Users who aim at OSI are also most likely to have their LANs connected to the corporate mainframe: almost 58% of LANs at OSI strategy sites are hooked to the corporate data center. The mean for all technology strategies is 39%.
- OSI strategists also have the largest percentage of their PC users on LANs: almost 57%. Companies with Unix and MS-DOS strategies lag at about 46%.
- The LAN lead has been taken by MIS most often at organizations with OSI strategies. At companies pursuing other technology strategies, end users have pushed LANs hardest between 20% and 37% of the time; at OSI shops, end users have taken the lead only 5.5% of the time.
- The organizations with OSI technology strategies are the most likely to have installed LANs: more than 83% say they've done so. The mean for all technology strategies is almost 56%.

The Horse's Mouth

A maddening drawback of most surveys is homogenization. The reactions of individuals get whipped into a froth of numbers to render up a smooth, statistical picture of trends. But with DATAMATION's Connectivity Survey, the tale has been told in words as well as numbers. Here are some verbatim comments from the questionnaires.

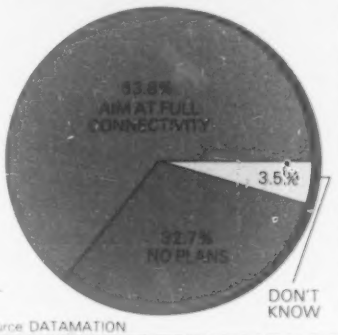
- When asked "What is the most common title of an individual at your organization who is in charge of implementing connectivity solutions?" a respondent eloquently replies, "the telephone repairman."
- Asked to identify missing pieces of the connectivity puzzle, one gloomy user responds, "It will never be complete."
- A director of information systems at a manufacturing company complains that "no true standards exist across the board that adequately address the connectivity of multivendor systems, without extensive customization."
- An IS manager at an oil and gas exploration company doesn't think the puzzle is incomplete, but he does complain about "the amount of memory required on the PC [in order to] connect. It doesn't leave enough memory to run applications. . . ."
- A communications manager at a publishing company sourly notes, "Too many [connectivity products] don't work as announced."
- An IS manager in construction/mining/agriculture can't find satisfactory "remote access to LANs."
- A communications technician at a large communications utility scrawls in large letters what he finds lacking: "STANDARDS!" He adds that SNA gateways purchased by his company have failed to meet his expectations.
- A facilities manager at a large manufacturing company says "data transformation problems need additional work." But this manager says he has not purchased unsatisfactory connectivity equipment: "My expectations were not high," he explains.
- A manager of micro-information services at a medical or legal services firm is "concerned about the quality and availability of software for gateways."
- A data processing manager complains of "not enough education by the computer vendor, i.e., IBM."
- A manager of computer operations at a large wholesale or retail trade company says, "Yes, even easy-to-use PC packages break down when it's time to import data."
- One network manager/administrator for a large educational institution sees improvement: "Not as many missing pieces [of the connectivity puzzle] as there were two years ago."
- And an IS manager and an analyst should meet.

The analyst: "All the pieces seem to be there. People have just not come up to speed in learning about the potential uses."

The manager: "As confusing as all the different communications products are, no one company or person can possibly know everything there is to know."

The Connectivity Target

At the majority of U.S. firms, the aim is to fully interconnect computer systems.



Source: DATAMATION

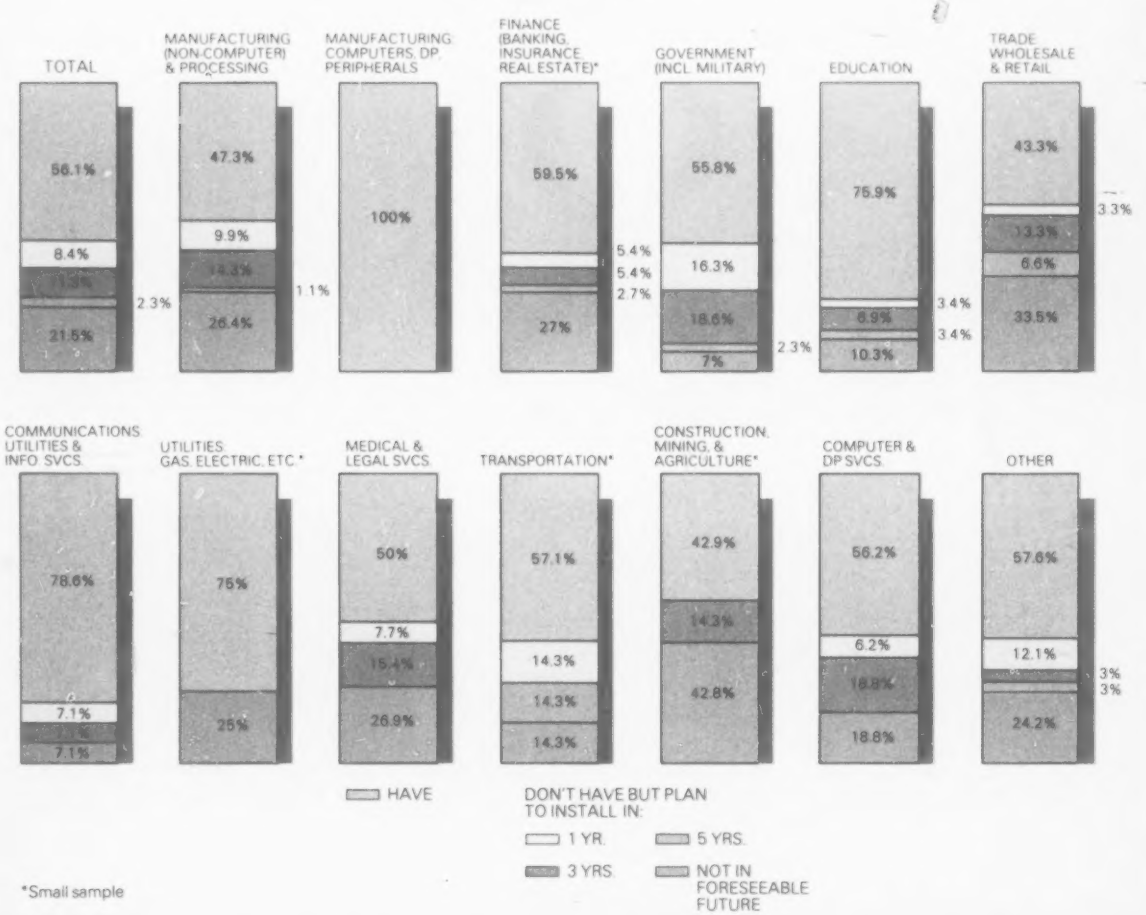
Methodology

On January 17 of this year, 2,000 questionnaires were mailed to a random sample of DATAMATION subscribers. The sample was limited to one name per site for those whose titles are within Computer/Systems Operations Management. Names were selected at a specified interval throughout the list so that a systematic random sample of the entire list resulted. To achieve the highest possible response rate, each outgoing envelope was personally addressed to the recipient and a business reply envelope was enclosed to facilitate return of the completed questionnaire.

By February 15, a total of 351 completed questionnaires had been returned to the Cahners Publishing Market Research Department, indicating a response rate of 17.6%. The results were tabulated and this report was written based upon the data in these questionnaires. Percentages based on a sample of this size have 95% confidence intervals of between two and six percentage points in either direction. That is, in 95 cases out of 100, percentages based on this sample will differ by no more than two to six percentage points from what would have been obtained by interviewing all subscribers rather than just a sample.

The LAN Reality

Local area networks have vastly increased their penetration into U.S. businesses, but some businesses are more wired than others.



*Small sample

Source: DATAMATION

Top Chart by Catherine Francis, Bottom Chart by Paragraphics

FINANCIAL SERVICES

SECTORS

SCAN

Workstations Make Their Way into Wall Street Portfolios

BROKERAGE HOUSES SELECTIVELY EQUIP THEIR TOP PERFORMERS WITH NEW COMPUTING POWER

The word on the Street is "workstation." An expanding service economy, rising popular participation in the markets, globalization of financial activity, consolidation of and increased competition among financial firms, together with rapidly advancing high technology—all are factors adding up to a furious drive to increase the productivity of traders and brokers by concentrating data and communications power on their desks. How—and whether—the broker/trader workstation is being implemented has not been a source of agreement, however, and so DATAMATION asked a few in the know what they knew:

John McGeachie, senior consultant at Arthur D. Little, Burlington, Mass.: "The workstations are going to dealers, the big guys, making big deals. Those are the guys who are making money for the firm, by going for a better price. If they have more intelligence in front of them on the desk, they can have the computer scan futures versus current price, etc. Within some set conditions, the computer may even initiate the trade."

Alan Loss, CEO of Asset Management Technology Corp., Marblehead, Mass.: "Workstations are not for brokers serving individual investors. Most of their needs will be satisfied by powerful PCs. Traders and research analysts will have them. Quotron used to be on brokers' desks for stock prices. It was just a dumb terminal. Now Quotron offers an intelligent terminal on your desk."

Pat Sullivan, senior manager at Peat, Marwick, Main & Co., Lexington, Mass.: "It's mostly the big houses that have pilot projects. But all will have to follow. . . . It will give the broker the incentive and the motivation to sell the diverse products that the house offers. If you can offer your customer more than what your competitor is offering, that's what's important. Another thing that firms want to do is retain account executives. If they don't encourage a broker to stay, most often he takes his customers with him."

Mark Sternfeld, managing director at Salomon Brothers Inc., New York: "We'll have trader workstations at Salomon, operations workstations, accountant workstations. We believe a great deal of the functionality can be distributed itself. But people jump to the wrong conclusions when they hear 'workstation.' Not every accounting person is going to get a $50,000 workstation with CAD/CAM."

DATAMATION's budget survey shows financial firms will devote 2% of their budgets to workstations this year. ◀

TURNING TO TURNKEY

NCR is the turnkey vendor of choice for most small banks.

Vendor	Customers	Hardware
NCR	1,106	NCR
Information Technology Inc.	878	Unisys
Jack Henry & Assoc.	502	IBM
Modern Banking Systems Inc.	487	Texas Inst.
Kirchman Corp.	400	IBM
Broadway & Seymour	316	IBM
Electronic Data Systems	289	IBM
Bank Systems Co.	150	IBM
Precision Computer Systems Inc.	150	Unisys
Nicola Banking System	122	NCR

*Commercial banks with assets under $250 million
Source: Computer Based Solutions Inc., New Orleans

Agents Network

This month and last, the National Association of Independent Life Brokerage Agencies (NAILBA) has been hearing presentations from firms eager to do for life insurance what has been done for the airline industry: give it a data communications platform linking agents with service providers. By connecting their computers to those at insurance companies, the system would allow independent agents immediate access to product information and case status, direct entry of applications, and even electronic transmission of commission payments.

The leading candidate to supply the service, which would send data over the Insurance Value Added Network System, is Multidata Corp. of San Jose.

A decision by NAILBA is expected this summer. ◀

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Editor: Linda Runyan
Scan Writer: Eric Brand

Accuracy Counts

Two years ago, SunBank/South Florida NA hired some help to count currency and separate out "fit" notes for its ATMs. They counted thousands of bills a day, rarely made a mistake, and never embezzled. So SunBank hired seven more members of their family—the Toshiba-based Mosler currency processing system family—and now the machines are busily processing 800,000 bills a month.

Mosler processors count Florida dollars accurately.

Paula Hertzer, senior vp at SunBank, is ecstatic. "It's very unusual for equipment to be able to sort for denomination, suspected counterfeits, fitness sort—and be accurate!" she says. Sold by Mosler Inc., the system is based on Toshiba CS-6600s and CS-400s and uses Mosler software.

"Prior to the purchase of the Toshiba machines, we did a manual counting of the deposits of our corporate accounts," explains Hertzer. "We had a very small vault capacity, as far as space for people, for bodies. We looked for a way to provide the most efficient service possible for our customers without spending a lot of money." Having found it, she says, she also found that the bank "can continue to take on new customer accounts without increasing staff. The machine just works a little longer each day."

Defalcation (banksp·ak for stealing from the till) is, of course, a nonconcern with a nonhuman money-counter. In fact, the system has a snitch feature to guard against all-too-human temptation. "The machine actually will lock out the operator if the deposit is out of balance, and will call the supervisor," says Hertzer. She notes, however, that the feature is unnecessary: "We pride ourselves in having few losses in our cash vault processing anyway." ◀

Futures Traders Spar

The scratch-'er-eyes-out grudge match between Chicago's two futures exchanges has gone overseas, following a federal investigation, introduction of rival products, and the development of competing automated trading systems. The last are seen as the ticket to admission into foreign futures exchanges, where many see the battle for survival shaping up.

The Chicago Mercantile Exchange is developing Globex jointly with Reuters Holdings plc. Globex is designed to be a worldwide trading system that will post and match bids and offers. The Chicago Board of Trade is developing an automated auction market system that would actually replicate the pit open-outcry system.

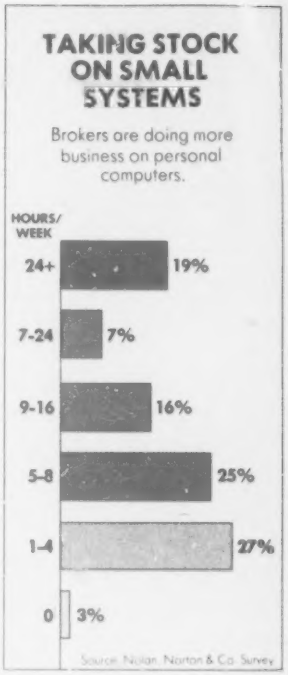
Both exchanges are pushing their systems hard on the world market. The Marché a Terme International de France and the Sydney Futures Exchange have signed on to Globex, and now the London International Financial Futures Exchange (LIFFE) is being courted.

Roger Barton, director of technical services at LIFFE, considers the alternatives. "Both the Merc and the Board of Trade are large exchanges and they're both technically very competent," he observes. "So there's advantages to working with both of them. We're quite new—only seven years old—so their resources are very large compared to LIFFE."

A hookup therefore might mean access to valuable technical experience. But whereas Barton feels that, philosophically, LIFFE is "very close" to the Board of Trade, especially in its approach to an automated trading system, Globex represents participation in a worldwide system.

One consideration, according to Barton, is to prevent being locked into a technology by any cooperative agreement. "Our technical architecture is very open," he declares.

"For example, our automated trading system, workstations, clearing systems are based on DEC, IBM—we have quite a mix. There's no particular bent, and we'd like to keep it that way." ◀



The London International Futures Exchange and other foreign markets are key.

Andersen Sees Fewer Slices in Bigger CSI Pie

The computer systems integration market will get simultaneously bigger and smaller, according to Arthur Andersen & Co. That's anything but confusing to John Altman, director of Andersen's worldwide systems integration practice.

The CSI market is expected to triple by mid-decade from its current $17 billion size. "Our goal," says Altman, "is to be about a $5 billion consulting business by the mid-1990s, and maybe $10 billion by the end of the decade. I believe that our partners and our people are extremely fired up by that objective." With Andersen's current CSI revenues pushing $1 billion, that's a five- and tenfold increase, respectively. That explains the "bigger" part of the equation

Altman targets $5b CSI goal.

(not to mention the partners' enthusiasm). But the "smaller" part is hard to figure out.

"Clearly, we believe that this is a marketplace that is going to consolidate," says Altman. "There are not going to be a large number of people that can do systems integration. Over the next several years, there are going to be very few survivors."

Though the defection of several top partners and managers last year generated a lot of press, Andersen still sees itself as one of the survivors—to say the least. A major restructuring, assuaging the firm's consultants by shifting its emphasis from taxes and audits to consulting, was a tremendous move, says Altman. "One of the reasons is that all the partners will benefit from the success of Andersen Consulting."

That unity will be crucial to Andersen's success if it's to fight off competitors for the big CSI contracts. With its head start, the chances are getting smaller that Andersen won't get bigger. ◀

Chemical Bank's Pronto just never caught on.

Home Banking Is Not Pronto

How'd you like an automatic teller machine dispensing cash in your living room? It looks like that might be the only way for now to sell home banking. Frank Faeth, vp in consumer banking and director of planning at Chemical Bank, points out, "Given the cost, you wouldn't pay a thousand dollars to keep your recipes and balance your checking."

Chemical should know. It spearheaded home banking with its Pronto program in 1983, but business was never brisk enough to recoup investment. Although a joint venture was established with AT&T in 1985 expressly to market it, Pronto was dead as of January 1989.

Pronto did not die lonely. "A lot of banks are considering the financial viability of their programs," says Faeth. "I think you're going to see banks focusing their businesses. If programs cannot pay for themselves or cannot demonstrate strategic importance, I think those programs will just go away."

Although he refuses to make a projection for the home banking market, the Chemical executive is still optimistic about it. He cites as a possible harbinger for the future the Prodigy Interactive Personal Service from IBM and Sears, which provides information, shopping, banking, travel reservations, and communications on a home personal computer. "Look at the Discover card and the IBM PC," says Faeth, referring to the popularity of Sears new credit card and IBM's machines. "You've got to think they know what they're doing."

Faeth foresees a time when every home will have a comprehensive electronic link to the world, and banking, shopping, learning, viewing, and the like will be done from one convenient Lazyboy. But, he says, "you really have to prove to someone that it's worth it to change their behavior." ◀

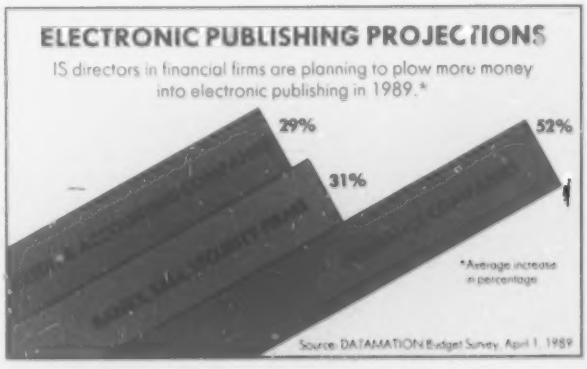
Post-Crash — Wall Street IS Spending

With a year and a half between it and the Crash of 1987, Wall Street is shelling out its dough for information systems cautiously. "The period from 1983 to 1987 was one of extreme rapid growth of spending on dp. That ended with the crash," notes Mark Sternfeld, managing director at Salomon Brothers Inc. in New York. "In the subsequent period, it was probably half that—maybe less, zero to 15%. This year, it has edged up a bit."

The expenditures go to bread-and-butter processing. "The [funds for] artificial intelligence kinds of applications, relative to large systems budgets, is immaterial," says Sternfeld.

The Salomon executive believes that the most important determinant of IS allocations is where a user is in terms of the available technology. "Different firms have different cycles," he says. "You're in a technology for a decade and a half and then you change it for another one. The large investment banks—there are five or six of us—spend about 12 years in a technology, and six years migrating.

"We are going to be investing in a fundamental change in our processing, from a mainframe-based environment to a distributed environment. Those firms that have had this change already will be spending some of this money in delivering this technology to their end users." ◀


ELECTRONIC PUBLISHING PROJECTIONS
IS directors in financial firms are planning to plow more money into electronic publishing in 1989.*
29%
31%
52%
*Average increase in percentage
Source: DATAMATION Budget Survey, April 1, 1989